

REMARKS

The above-identified patent application has been amended and Applicant respectfully requests the Examiner to reconsider and again examine the claims as amended in accordance with the provisions of 37 C.F.R. §1.116.

Claims 1-20 are pending in the application. Claims 1-20 are rejected. Claims 1, 8, 15, and 16 are amended herein. Claims 21-23 are cancelled herein without prejudice. Claims 24-29 are new.

The Rejections under 35 U.S.C. §102(b)

The Examiner rejects Claims 1, 2, 6-9, 13-16, and 19-23 under 35 U.S.C. §102(b) as being anticipated by an article entitled "Jazz: An Extensible Zoomable User Interface Graphics Toolkit," hereafter referred to as the Jazz article.

Applicant submits that amended Claim 1 is patentably distinct over the Jazz article, since the cited reference neither describes nor suggests "... a computer implemented method of providing a graphical display for a desktop application, comprising: generating scene graph data in conjunction with a central processing unit, the scene graph data including at least one two-dimensional object; storing the scene graph data in a three-dimensional graphics circuit module coupled to the central processing unit, wherein the three-dimensional graphics circuit module has a local processor, and wherein the three-dimensional graphics circuit module is adapted to generate the graphical display via the local processor; generating a scene graph display command, wherein the scene graph display command is associated with the at least one two-dimensional object; interpreting the scene graph display command with the three-dimensional graphics circuit module; and displaying at least one two-dimensional image on the graphical display with the three-dimensional graphics circuit module, wherein the at least one two-

dimensional image is associated with the at least one two-dimensional object," as set forth in amended Claim 1.

With this particular arrangement, the present invention employs a three-dimensional graphics circuit module. The claimed three-dimensional graphics circuit module has certain claimed characteristics, including a local processor, storage of scene graph data, interpretation of scene graph display commands, and an ability to generate the graphics display via the local processor. Support for the claimed arrangement is described, for example, in conjunction with FIG. 2. In particular, at page 7, lines 11-13, it is stated that "... hardware manufacturers have provided 3D graphics circuit boards, having local processing capability on the graphical circuit board, and having the ability to interpret scene graph data and rapidly provide a corresponding graphical display on a monitor."

In his Response to Arguments the Examiner asserts "[t]he specification does not define 'graphics circuit module.'" Applicant respectfully disagrees.

Applicant submits that the claimed graphics circuit module is described by physical and functional characteristics throughout the specification. Applicant respectfully directs the Examiner's attention to page 3, lines 27-30, where it is stated "...a method of providing a graphical display includes generating scene graph data having at least one two-dimensional object and storing the scene graph in a graphics module capable of generating a graphical display." Applicant also respectfully directs the Examiner's attention to page 4, lines 14-15, where it is stated "[I]n one particular embodiment, the graphics module is a three-dimensional graphics circuit card (3DGC)."

Applicant also respectfully directs the Examiner's attention to page 87 lines 8-13, where some characteristics of a three-dimensional graphics circuit module in the form of a three-dimensional graphics circuit board are described as:

Scene graph techniques are conventionally used to provide a scene graph associated with three-dimensional images on a graphical display, for example in computer games. To this end, software manufacturers have provided the three-dimensional (3D) applications and APIs described above. Also, hardware manufacturers have provided 3D graphics circuit boards, having local processing capability on the graphical circuit board, and having the ability to interpret scene graph data and rapidly provide a corresponding graphical display on a monitor.

In his Response to Arguments, the Examiner also asserts that "...applicant needs to amend the claims to specifically claim a '3D graphics circuit board' or a 'three-dimensional graphics circuit card (3DGC)' to overcome the 102 rejection..." However, Applicant submits that it will be understood by one of ordinary skill in the art that the claimed three-dimensional graphics circuit module having the claimed characteristics can be in a variety of physical forms, not only the three-dimensional graphics circuit card as suggested by the Examiner. In one arrangement, the Examiner recognizes that the three-dimensional graphics circuit module is in the form of a three-dimensional graphics circuit card, which is separate from a computer mother board on which a CPU conventionally resides. The three-dimensional graphics circuit card can plug into the mother board via a PCI connector or the like. In another arrangement, the claimed graphics circuit module can include circuits disposed on the mother board, in which case, no other circuit card other than the mother board is needed in order to provide the functions of the three-dimensional graphics circuit module. In either arrangement, having the claimed three-dimensional graphics circuit module with the claimed characteristics allows the CPU to offload the rendering of images on a computer screen from the CPU (e.g., 38b, FIG. 2) to the local processor of the graphics circuit module (e.g., 38c). Therefore, the CPU is free to do other tasks.

The specification describes a variety of advantages of using the claimed three-dimensional graphics circuit module. For example, as described at page 10, line 11-16:

By using the scene graph system 30, 2D display images can be rapidly rendered. A 2D display rendering speed improvement of an order of magnitude can be realized compared to the system 10 of FIG. 1, which uses primitive "paint" display commands. That is, by having the scene graph 38d stored directly on the 3DGC 38c and by limiting the software commands to occasional "render" display

commands, (and other display commands corresponding to scene graph updates), a performance increase on the order of an order of magnitude can be realized.

The specification describes still further advantages of the claimed arrangement. For example, as described at page 10, lines 23-27:

Besides improved display rendering speed, the approach of the present invention has the following advantages: (1) scene graph rendering time can be easily predicted, which allows for synchronous or asynchronous updates of the display images; and (2) scene graph rendering is performed by hardware, leaving the primary CPU free to carry on others time-critical tasks (e.g., input/output). The exemplary system 30 has the ability to greatly accelerate 2D desktop software applications. A 2D desktop software application will be recognized to have a variety of characteristic features, including, but not limited to, re-sizeable windows, buttons, panels, drop-down menus, text, etc.

In contrast, the Jazz article uses scene graphs to render two-dimensional images on a computer display, but in an entirely different way than the present invention. The Jazz article does not use a three-dimensional graphics circuit module to generate the display. The display in the Jazz article is instead rendered by the computer central processing unit (CPU) via conventional Java2D software. As a result, the rendering and general computer operation described by the Jazz article is necessarily *much slower* than that of the present invention.

For Example, the Jazz article states, at page 173, in the right hand column, "Jazz uses the Java2D renderer... ." The Jazz article software, in conjunction with a scene graph, makes software calls to the conventional Java2D renderer. The software calls used with conventional Java2D include so-called "paint" commands, which are described to be conventional in conjunction with FIG. 1 of the present application. Thus, from scene graph data, the Jazz article provides primitive paint commands, which are rendered directly on a computer graphics display *by a computer CPU*. The Jazz article neither describes nor suggests scene graph data adapted to be stored in a *three-dimensional graphics circuit module* resulting in the graphical display as claimed.

In view of the above, Applicant submits that amended Claim 1 is patentably distinct over the Jazz article.

Claims 2, 6, and 7 depend from and thus include the limitations of Claim 1. Thus, Applicant submits that Claims 2, 6, and 7 are patentably distinct over the cited reference at least for the reasons discussed above in conjunction with Claim 1.

For substantially the same reasons discussed above in conjunction with Claim 1, Applicant submits that Claim amended 8 is patentably distinct over the Jazz article, since the cited reference neither describes nor suggests "...[a] computer program medium having computer readable code thereon for providing a graphical display for a desktop application, the medium comprising: instructions for generating scene graph data in conjunction with a central processing unit, the scene graph data including at least one two-dimensional object; instructions for storing the scene graph data in a three-dimensional graphics circuit module coupled to the central processing unit, wherein the three-dimensional graphics circuit module has a local processor, and wherein the three-dimensional graphics circuit module is adapted to generate the graphical display via the local processor; instructions for generating a scene graph display command associated with the at least one two-dimensional object; instructions for interpreting the scene graph display command with the three-dimensional graphics circuit module; and instructions for displaying at least one two-dimensional image on the graphical display with the three-dimensional graphics circuit module, wherein the at least one two-dimensional image is associated with the at least one two-dimensional object," as set forth in amended Claim 8.

Claims 9, 13, and 14 depend from and thus include the limitations of Claim 8. Thus, Applicant submits that Claims 9, 13, and 14 are patentably distinct over the cited reference at least for the reasons discussed above in conjunction with Claim 8.

For substantially the same reasons discussed above in conjunction with Claim 1, Applicant submits that amended Claim 15 is patentably distinct over the Jazz article, since the cited reference neither describes nor suggests "... a three-dimensional graphics circuit module coupled to the display processor, wherein the three-dimensional graphics circuit module has a local processor, and wherein the three-dimensional graphics circuit module is adapted to generate the graphical display via the local processor, wherein the three-dimensional graphics circuit module is adapted to store the scene graph data, and wherein the three-dimensional graphics circuit module is adapted to interpret the scene graph display command, resulting in a display of at least one two-dimensional image on the graphical display,..." as set forth in amended Claim 15.

Claims 16, 19, and 20 depend from and thus include the limitations of Claim 15. Thus, Applicant submits that Claims 16, 19, and 20 are patentably distinct over the cited reference at least for the reasons discussed above in conjunction with Claim 15.

As described above, Claims 21-23 are cancelled herein without prejudice.

In view of the above, Applicant submits that the rejection of Claims 1, 2, 6-9, 13-16, 19, and 20 under 35 U.S.C. §102(b) should be removed.

The Rejections under 35 U.S.C. §103(a)

The Examiner rejects Claims 3-5, 10-12, 17, and 18 under 35 U.S.C. §103(a) as being unpatentable over the Jazz Article in view of Applicant's admission of the prior art. The Examiner recognizes that the Jazz article does not teach the claimed display images of aircraft and geographical features. The Examiner relies upon the Applicant's Background of the Invention as teaching display images of aircraft and geographical features. The Examiner concludes "[i]t would have been obvious to one of ordinary skill in the art at the time of the applicants invention to define aircraft and geographic images with 2D scene graphs... ."

As the Examiner is aware, and as found in MPEP §2142, in order to establish a prima facie case of obviousness "...the prior art reference (or prior art references when combined) must teach or suggest all the claim limitations." Applicant respectfully submits that the Examiner has not met this burden in order to establish prima facie obviousness.

Amended Claims, 1, 8 and 15 are discussed above in view of the Jazz article. Applicant submits that the Background of the Invention section of the present patent application used by the Examiner fails to overcome the above deficiencies of the Jazz article.

Claims 3-5 depend from and thus include the limitations of Claim 1. Claims 10-12 depend from and thus include the limitations of Claim 8. Claims 17 and 18 depend from and thus include the limitations of Claim 15. Thus, Applicant submits that Claims 3-5, 10-12, 17, and 18 are patentably distinct over the cited references at least for the reasons discussed above in conjunction with Claims 1, 8, and 15.

In view of the above, Applicant submits that the rejection of Claims 3-5, 10-12, 17, and 18 under 35 U.S.C. §103(a) should be removed.

Claims 24-29 are new in the application. Consideration of new Claims 24-29 is respectfully requested.

In view of the above Amendment and Remarks, Applicant submits that Claims 1-20, and 24-29 and the entire case are in condition for allowance and should be sent to issue and such action is respectfully requested.

It is submitted that this amendment places the application in condition for allowance or in better form for consideration on appeal, and thus, entry of this amendment is respectfully requested under the provisions of 37 C.F.R. §1.116.


The Examiner is respectfully invited to telephone the undersigning attorney if there are any questions regarding this Amendment or this application.

The Assistant Commissioner is hereby authorized to charge payment of any additional fees associated with this communication or credit any overpayment to Deposit Account No. 500845, including but not limited to, any charges for extensions of time under 37 C.F.R. §1.136.

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Respectfully submitted,

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